Ido Juran: Is there a table for each time intervals?

Michail Xyntarakis: Yes for each 15 min interval there is a table.

Hayssam Sbayti: How do you maintain original trip distribution?

Michail Xyntarakis: You can maintain the original TLFD by adding additional columns that penalize longer or shorter trips. We did not trust the TLDF resulting from the original table so we did not apply TLDF constraints. Shinwon Kim: How do we know departure time distribution of the origins?

Hayssam Sbayti: I meant Trip Length Distribution

Michail Xyntarakis: TLFD is Trip Length Frequency Distribution. Sorry.

Wu Sun: For each vehicle path, the links on the path need to be saved in memory?

Michail Xyntarakis: Yes.

Yanping Zhang: Do u check O & D for each TAZ after adjustment?

Michail Xyntarakis: Yes but demand changed significantly as you saw in one of the previous slides. The balancing procedure did not change the demand profile of the PM period as much. So it depends on the original demand

Hayssam Sbayti: Do you assume network is empty for each 15-min demand period?

Michail Xyntarakis: No. We do not run a DTA assignment for every 15min time period. We run a DTA simulation for the entire AM time period.

Hayssam Sbayti: How is the regional demand for 3 hours split into 15 min demand?

Michail Xyntarakis: The demand we obtained from the static model was from 7AM to 8AM. We started with the best initial profile that we had information for and then let the IPF procedure to shape the departing profile.

Lynne Thisse: What's the best way to tell if the procedure has completely converged?

Michail Xyntarakis: At some point the demand does not change from iteration to iteration.

Ido Juran: Can you somehow integrate speed data?

Michail Xyntarakis: Good question but I do not know the answer.

Wu Sun: Given the large number of links, the incidence table could be really large column-wise, is that an issue in terms of memory?

Michail Xyntarakis: No it is not. I did not use more than 1.5GB. There are ways to optimize memory requirements and that you do not have to instantiate a 100K by 1K matrix

Surachet Pravinvongvuth: Which solver did you use to solve this Maximum Entropy problem?

Michail Xyntarakis: We wrote a custom program that solves the IPF procedure. Computation time is insignificant. Each vehicle is represented by an object that has an additional parameter containing the adjustment factor.

Hayssam Sbayti: Have you looked at path residual capacities to modify the factors so as certain vehicle paths are more replicable than others?

Michail Xyntarakis: No. But how would we decide which paths are more replicable than others?

Maricopa Association of Govts: How do you calculate turning movements?

Michail Xyntarakis: Turning movement volumes are calculated by aggregating the link sequence in each path. However, we did not input movement counts in the IPF procedure. We used link counts.

Maricopa Association of Govts: Question for Jim: you could have good link counts match, but bad turning movement match. I guess the question is how do you calibrate the turning movements?

Michail Xyntarakis: Instead of links in the columns you can use movements. It is a very minor modification to the procedure.

Hayssam Sbayti: Michail, if you switched columns from links to movements, can u still match counts or u will match turning fractions?

Michail Xyntarakis: You will then match movement counts. But you can have both links and movements in your columns. So you can match for both.

Wenjing Pu: Jana: The number of zones (centroids) is the same in the DTA model and static Travel Demand Model? Thanks

Jana Janarthanan: Yes.

Maricopa Association of Govts: Do you calibrate the entire region first or just calibrate the study area?

Jana Janarthanan: Mainly along the corridors and plus the intersections within the buffer zone.

Hayssam Sbayti: What procedures were used to calibrate the counts?

Jana Janarthanan: We looked at the link volumes and turn moves at the same time. If this doesn't answer your question, please feel free to call me or send an email.

Maricopa Association of Govts: Jana, could you clarify the lane based simulation? Is it the same as the microscopic simulation that simulate vehicle movements by lane?

Jana Janarthanan: In the DTA model we used, the simulation is based on vehicle basis including car-following theory etc. But the results can be viewed at a lane basis. Thanks.

SEMCOG: So, it means you coded signals for the impact area?

Jana Janarthanan: Yes. We coded the signals on the corridors and the impact areas. Thanks.

Hayssam Sbayti: Also, how were the travel times calibrated?

Jana Janarthanan: Travel times were calibrated at segment level and corridor level.

SEMCOG: Jana, did you code all the signal timings for all the intersections for the entire network or just the study corridors?

Jana Janarthanan: Impact area. Thanks for your question.

Hayssam Sbayti: Jana: How were the link counts calibrated?

Jana Janarthanan: I already answered. Thanks.